

IN THE CLAIMS:

Cancel claim 1 and add new claims 2-25 as follows:

1. (Cancelled)
2. (New) A memory system, comprising:
 - a memory device;
 - a data bus; and
 - a controller coupled to the memory device using the data bus, the controller including:
 - an interface for receiving read, write and a non-read/write commands;
 - a buffer that temporarily stores write data corresponding to at least a first address in the memory device; and
 - buffer control logic,wherein the write data corresponding to the write address is transferred from the buffer to the memory device in accordance with at least a current command and the buffer control logic, and the controller performs a predefined operation on a read command when a second address corresponding to the read command is the same as the first address.
3. (New) The memory system of claim 2, wherein the predefined operation comprises delaying the read command.
4. (New) The memory system of claim 2, wherein the write data is transferred from the buffer to the memory device in further accordance with a previous command received by the controller.
5. (New) The memory system of claim 2, wherein the write data is transferred from the buffer to the memory device if the controller is idle during a time period.
6. (New) The memory system of claim 2, wherein the buffer comprises a first in, first out (FIFO) buffer.
7. (New) The memory system of claim 2, wherein the buffer control logic comprises a finite state machine.
8. (New) The memory system of claim 7, wherein the finite state machine is implemented in a look-up table.

9. (New) The memory system of claim 7, wherein the finite state machine has at least four states, a first state corresponding to an initial idle mode of operation, a second state corresponding to a write-once-to-the-buffer mode of operation, a third state corresponding to a wait mode of operation and a fourth state corresponding to a write-twice-to-the-buffer mode of operation.

10. (New) The memory system of claim 9, wherein the finite state machine is configured to remain in the first state until a first write command is received by the controller, and the finite state machine is configured to transition to the second state when the first write command is received in a first time period and the controller stores the write data corresponding to the first write command in the buffer.

11. (New) The memory system of claim 10, wherein the finite state machine is configured to transition from the second state to the fourth state when a second write command is received in a second time period and the controller stores the write data corresponding to the second write command in the buffer.

12. (New) The memory system of claim 11, wherein the finite state machine is configured to remain in the fourth state when a third write command is received in a third time period and the controller transfers the write data corresponding to the first write command from the buffer to the memory device.

13. (New) The memory system of claim 11, wherein the finite state machine is configured to transition from the fourth state to the third state when a non-read/write command is received in a third time period and the controller transfers the write data corresponding to the first write command from the buffer to the memory device.

14. (New) The memory system of claim 13, wherein the finite state machine is configured to transition from the third state to the second state when a third write command is received in a fourth time period, the controller stores the write data corresponding to the third write command in the buffer and the controller transfers the write data corresponding to the second write command from the buffer to the memory device.

15. (New) The memory system of claim 13, wherein the finite state machine is configured to transition from the third state to the first state when a non-read/write command is received in a fourth time period and the controller transfers the write data corresponding to the second write command from the buffer to the memory device.

16. (New) The memory system of claim 13, wherein the finite state machine is configured to transition from the third state to the first state when a read command is received in a fourth time period, the controller transfers the write data corresponding to the second write command from the buffer to the memory device and the controller delays the read command if an address corresponding to the read command matches one of the addresses corresponding to the write data in the buffer.

17. (New) The memory system of claim 11, wherein the finite state machine is configured to transition from the fourth state to the third state when a read command is received in a third time period, the controller transfers the write data corresponding to the first write command from the buffer to the memory device and the controller delays the read command if an address corresponding to the read command matches one of the addresses corresponding to the write data in the buffer.

18. (New) The memory system of claim 17, wherein the finite state machine is configured to transition from the third state to the second state when a third write command is received in a fourth time period, the controller stores the write data corresponding to the third write command in the buffer and the controller transfers the write data corresponding to the second write command from the buffer to the memory device.

19. (New) The memory system of claim 17, wherein the finite state machine is configured to transition from the third state to the first state when a non-read/write command is received in a fourth time period and the controller transfers the write data corresponding to the second write command from the buffer to the memory device.

20. (New) The memory system of claim 17, wherein the finite state machine is configured to transition from the third state to the first state when a read command is received in a fourth time period, the controller transfers the write data corresponding to the second write command from the buffer to the memory device and the controller delays the read command if an address corresponding to the read command matches one of the addresses corresponding to the write data in the buffer.

21. (New) The memory system of claim 10, wherein the finite state machine is configured to transition from the second state to the third state if a command other than a second write command is received in a third time period.

22. (New) The memory system of claim 21, wherein the finite state machine is configured to transition from the third state to the second state when the second write

command is received in a fourth time period, the controller stores the write data corresponding to the second write command in the buffer and the controller transfers the write data corresponding to the first write command from the buffer to the memory device.

23. (New) The memory system of claim 21, wherein the finite state machine is configured to transition from the third state to the first state when a non-read/write command is received in a fourth time period and the controller transfers the write data corresponding to the first write command from the buffer to the memory device.

24. (New) The memory system of claim 21, wherein the finite state machine is configured to transition from the third state to the first state when a read command is received in a fourth time period, the controller transfers the write data corresponding to the first write command from the buffer to the memory device and the controller delays the read command if an address corresponding to the read command matches one of the addresses corresponding to the write data in the buffer.

25. (New) A memory system, comprising:

- a memory means;

- a communication means; and

- a controller means coupled to the memory means using the communication means,

wherein the controller means receives read, write and a non-read/write commands, temporarily stores write data corresponding to at least a first address in the memory means, transfers the write data to the memory means in accordance with at least a current command, and performs a predefined operation on a read command if a second address corresponding to the read command is the same as the first address.